

COLORADO RIVER RECOVERY PROGRAM
FY-2006–2007 PROPOSED SCOPE OF WORK for:
Identification and Curation of Larval and Juvenile Fish

Project No.: 15

Lead Agency: Larval Fish Laboratory, Colorado State University
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<u>Category:</u>	<u>Expected Funding Source:</u>
<input checked="" type="checkbox"/> Ongoing project	<input checked="" type="checkbox"/> Annual funds
<input type="checkbox"/> Ongoing-revised project	<input type="checkbox"/> Capital funds
<input type="checkbox"/> Requested new project	<input type="checkbox"/> Other (explain)
<input type="checkbox"/> Unsolicited proposal	

I. Title of Proposal:
**Identification and Curation of Larval and Juvenile Fish by Colorado State University
Larval Fish Laboratory.**

II. Relationship to RIPRAP:
General Recovery Program Support Action Plan
V. Monitor populations and habitat and conduct research to support recovery actions (research, monitoring, and data management).
V.A. Measure and document population and habitat parameters to determine status and biological response to recovery actions.
V.B. Conduct research to acquire needed life history information.
V.E. Provide for long-term care, cataloging, and accessibility of preserved specimens.

III. Study Background/Rationale and Hypotheses:
This project provides Larval Fish Laboratory (LFL) taxonomic services for Project 22F, Yampa and Middle-Green Colorado Pikeminnow and Razorback Sucker Larval Abundance.

The project also provides ongoing curation (maintenance and management) of the growing Upper Colorado River Basin (UCRB) portion of the LFL Collection. LFL currently maintains 3,092,309 UCRB specimens in 89,573 taxon-specific lots as voucher for Recovery Program and earlier UCRB investigations. These collections are an

invaluable, long-term, historical resource for future reference and research. Some collections are over quarter century old, dating back to 1976. New collections are cataloged and added to the LFL Collection as they are received or processed by LFL. As the holdings of the LFL Collection become better known, we expect use of UCRB collections will increase substantially, both within and outside the Recovery Program.

As part of the curatorial effort, we continue to pursue arrangements to help ensure collection permanency. In part through the efforts of the principal investigator, preliminary plans continue to develop for administratively and physically consolidating most of the university's Natural History Research Collections (including the LFL Collection) to provide better long-term recognition, support, and facilities for those collections as a functional unit of Colorado State University.

IV. Study Goals, Objectives, End Product:

The goal of the project is to provide taxonomic and curatorial services for the Recovery Program. Specific objectives for FY 2006-2007 are to:

- (1) Support Recovery Program researchers by processing, cataloging, and curating preserved fish in specifically designated sets of collections submitted to LFL under this project, currently collections from Project 22F;
- (2) Provide limited taxonomic services and consultation on taxonomic or collection handling matters to other Recovery Program projects and researchers;
- (3) Catalog and incorporate in the LFL Collection other preserved UCRB specimens deposited by Recovery Program projects and researchers;
- (4) Continue curation (maintenance and management) of all cataloged UCRB specimens in the LFL Collection.

The end products for FY 2006-2007 will be:

- (1) Collection data for Project 22F researchers;
- (2) Other determinations of specimen identity and related consultations;
- (3) Incorporation of processed Project 22F and other deposited UCRB collections in the LFL Collection and catalog; and
- (4) Continued maintenance and management of, and access to, the growing cataloged collection of preserved fish which serve as voucher for Recovery Program investigations and provide a long-term resource for future Recovery Program and other public reference and research.

Work is conducted as received and needed.

V. Study Area:

The Recovery Program collections identified, processed, and curated by LFL were or will be collected from cool to warm-water reaches of the UCRB, generally exclusive of the San Juan River subbasin.

VI. Study Methods/Approach:

Taxonomic Services—We will identify preserved specimens (mostly larvae) collected under Project 22F and process, catalog, and curate those collections as part of the LFL Collection. Limited taxonomic services and related consultation for other Recovery Program projects and researchers will be provided as needed.

Ongoing Curation—The LFL Collection will continue to serve as the depository for larval and other small fish from preserved Recovery Program collections. Methods for receiving, accessioning, cataloging, maintaining, and managing use of these preserved specimens are provided in our draft "Larval Fish Laboratory Collection Policies and Procedures Manual" (Appendix II, Snyder 1996), as adapted for our SPECIFY Collection management system. We will respond to internal and external requests for collection information and use of specimens; Recovery Program approval will be required for any destructive use or transfer of endangered or rare species. We will continue our effort to ensure collection permanency, in part through planned consolidation of Colorado State University Natural History Research Collections.

VII. Task Description and Schedule:

Task 1, Taxonomic Services—As soon as possible after receipt of collections or requests for limited taxonomic assistance or advice.

Task 2, Ongoing Curation—As needed throughout each fiscal year.

VIII. FY-2006 Work:

- Deliverables/Due Dates: LFL will record and submit collection data to Project 22F researchers as soon as the collections are processed. Other taxonomic determinations and related information will be conveyed as soon as possible after it is requested. An annual project report will be submitted to the Recovery Program by the program-specified due date in late fall.

- Budget: ^a

Task 1 (Taxonomic Services)	LFL
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Labor	
PI/Taxonomist (\$5,673/mo. ^b ; 0.77 mo.)	\$4,368
Research Associates (\$2,878/mo. ^b ; 2.57 mo.)	7,393
Work-study Technicians (\$1,643/mo. ^c ; 0.3x1.5 mo.)	739
Supplies ^e	382
Total Direct Costs	<hr/> 12,882
Indirect Cost (15% TDC) ^f	1,932
Task 1 Subtotal (Direct & Indirect Costs)	<hr/> 14,814
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Task 2 (Ongoing Curation)	
Labor	
PI/Curator (\$5,673/mo. ^b ; 3.62 mo.)	\$20,529
RA/Coll. Man. (\$2,878/mo. ^b ; 2.57 mo.)	7,393
Work-study Technicians (\$1,643/mo. ^c ; 0.3x1.0 mo.)	493
Travel ^c	800
Supplies ^e	655
Total Direct Costs	<hr/> 29,870
Indirect Cost (15% TDC) ^f	4,481
Task 2 Subtotal (Direct & Indirect Costs)	<hr/> 34,351
FY 2006 TOTAL	<hr/> \$49,165

^a Annual estimated increases in fringe benefit rates (generally +0.5%) and salary and other expenses (x4%) are specified by the University Office of the Vice

President for Research and Information Technology it's current Proposal Budget Spreadsheet.

^b Salary plus fringe benefits (see salary schedule below).

^c 30% of wages, rest subsidized by work-study program.

^d Annual Recovery Program Researchers Meeting, 3 nights, 2 persons, pers. vehicle.

^e 80% vials, jars; 10% preservative, labels, etc.; 10% computer and lab supplies.

^f Indirect Cost rate is reduced from 45% to 15% by a current MOU between the U.S. Bureau of Reclamation and the University.

Salary Schedules for FY-2006:

Position	Salary ^a	Benefits ^a	Total
PI/Taxonomist	\$4,716	\$957	\$5,673
Research Associate(s)	\$2,392	\$486	\$2,878
Work-study Technicians	\$1,643	–	\$1,643

^a Salaries and benefits are adjusted for the federal FY (fiscal year beginning Oct. 1) with 3/4 from Colorado State FY 05/06 (beginning July 1) and 1/4 from Colorado State FY 06/07. Vacation, holiday, and sick leave (not included in benefits) are included in adjustments to the amount of budgeted effort (months).

FY-2007 Work (for multi-year study)

- Deliverables/Due Dates: LFL will record and submit collection data to Project 22F researchers as soon as the collections are processed. Other taxonomic determinations and related information will be conveyed as soon as possible after it is requested. An annual project report will be submitted to the Recovery Program by the program-specified due date in late fall.

- Budget: ^a

Task 1 (Taxonomic Services)	LFL
Labor	
PI/Taxonomist (\$5,906/mo. ^b ; 0.77 mo.)	\$4,547
Research Associates (\$2,996/mo. ^b ; 2.57 mo.)	7,697
Work-study Technicians (\$1,706/mo. ^c ; 0.3x1.5 mo.)	769
Supplies ^e	397
Total Direct Costs	13,410
Indirect Cost (15% TDC) ^f	2,012
Task Subtotal (Direct & Indirect Costs)	15,422
Task 2 (Ongoing Curation)	
Labor	
PI/Curator (\$5,906/mo. ^b ; 3.62 mo.)	21,373
RA/Coll. Man. (\$2,996/mo. ^b ; 2.57 mo.)	7,697
Work-study Technicians (\$1,706/mo. ^c ; 0.3x1.0 mo.)	512
Travel	832
Supplies ^e	681
Total Direct Costs	31,095
Indirect Cost (15% TDC) ^f	4,664
Task Subtotal (Direct & Indirect Costs)	35,759
FY 2007 TOTAL	\$51,181

Footnotes as for FY 2006.
Salary Schedules for FY-2007:

Position	Salary ^a	Benefits ^a	Total
PI/Taxonomist	\$4,904	\$1,002	\$5,906
Research Associate(s)	\$2,488	\$ 508	\$2,996
Work-study Technicians	\$1,706	–	\$1,706

^a Salaries and benefits are adjusted for the federal FY (fiscal year beginning Oct. 1) with 3/4 from Colorado State FY 06/07 (beginning July 1) and 1/4 from Colorado State FY 07/08. Vacation, holiday, and sick leave (not included in benefits) are included in adjustments to the amount of budgeted effort (months).

FY-2008 etc. (for multi-year study):

- Deliverables/Due Dates: LFL will record and submit collection data to Project 22F researchers as soon as the collections are processed. Other taxonomic determinations and related information will be conveyed as soon as possible after it is requested. Annual project reports will be submitted to the Recovery Program by the program-specified due date in late fall.
- Budget Estimates:
FY 2008: \$53,433 (based on university designated 4% increase in salary, travel, and supplies over FY 2007 figures plus an increase in fringe-benefit rate from 20.8% to 21.3%).
FY 2009+: FY 2008 budget estimate plus cumulative 4% per year.

IX. Budget Summary:

FY-2006	\$ 49,165
FY-2007	<u>\$ 51,181</u>
Total	\$100,346
FY-2008	\$ 53,433 (estimate)
FY 2009+	FY 2008 budget estimate plus cumulative 4% per year.

X. Reviewers: None

XI. References:

Snyder, D. E. 1996. Preserved larval and small-fish collections of the Upper Colorado River Basin: maintenance and cataloging of a valuable historical database. Final Report of the Larval Fish Laboratory, Colorado State University, to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin, U.S. Fish and Wildlife Service, Denver, Colorado. (24 April 1996).